

Fixing Fire Support in the GCE

A MAGTF Commander's Perspective

By Major General Robert R. Blackman, Jr., USMC

In the past 10 or so years, we have decreased our fire support systems too far. We got rid of a lot of our artillery weapons in the name of efficiency, in the name of mobility.... We have atrophied our Marine ground fires inventory to a dangerous point. We're out-gunned and out-ranged by just about everyone. So I am fixing the artillery—bringing robustness back to the Marine Artillery. And since I ordered the review of the Marine Artillery, I've decided we need to look at fire support for the entire MAGTF [Marine Air Ground Task Force] to ensure it has an integrated, flexible system.

General James L. Jones, USMC Commandant
Interview, "Fixing the Marine Artillery," Sep-Oct 00

The Commandant directed the leaders of the Marine Corps to fix artillery and, more importantly, examine fires across the MAGTF. To date, this examination indicates the fire support brought to the fight by the ground combat element (GCE) of the MAGTF has atrophied in the name of efficiency, becoming inadequate to support the expeditionary employment concepts that continue to be developed by the Marine Corps.

The good news is that it is not too late to reverse the slide. This article discusses many of the actions to affect these corrections. To understand how these changes will improve fire support, it is first necessary to understand the organization in which the GCE operates and to grasp the breadth of assets the GCE commander has at his disposal.

MAGTF 101. The signature characteristics of the Marine Corps are its expeditionary culture and core competency as a total force in readiness. We achieve these characteristics through an inherent flexibility and ability to task organize and fight as an integrated combined arms team.



A V-22 Osprey lifts a prototype M777 155-mm towed howitzer.

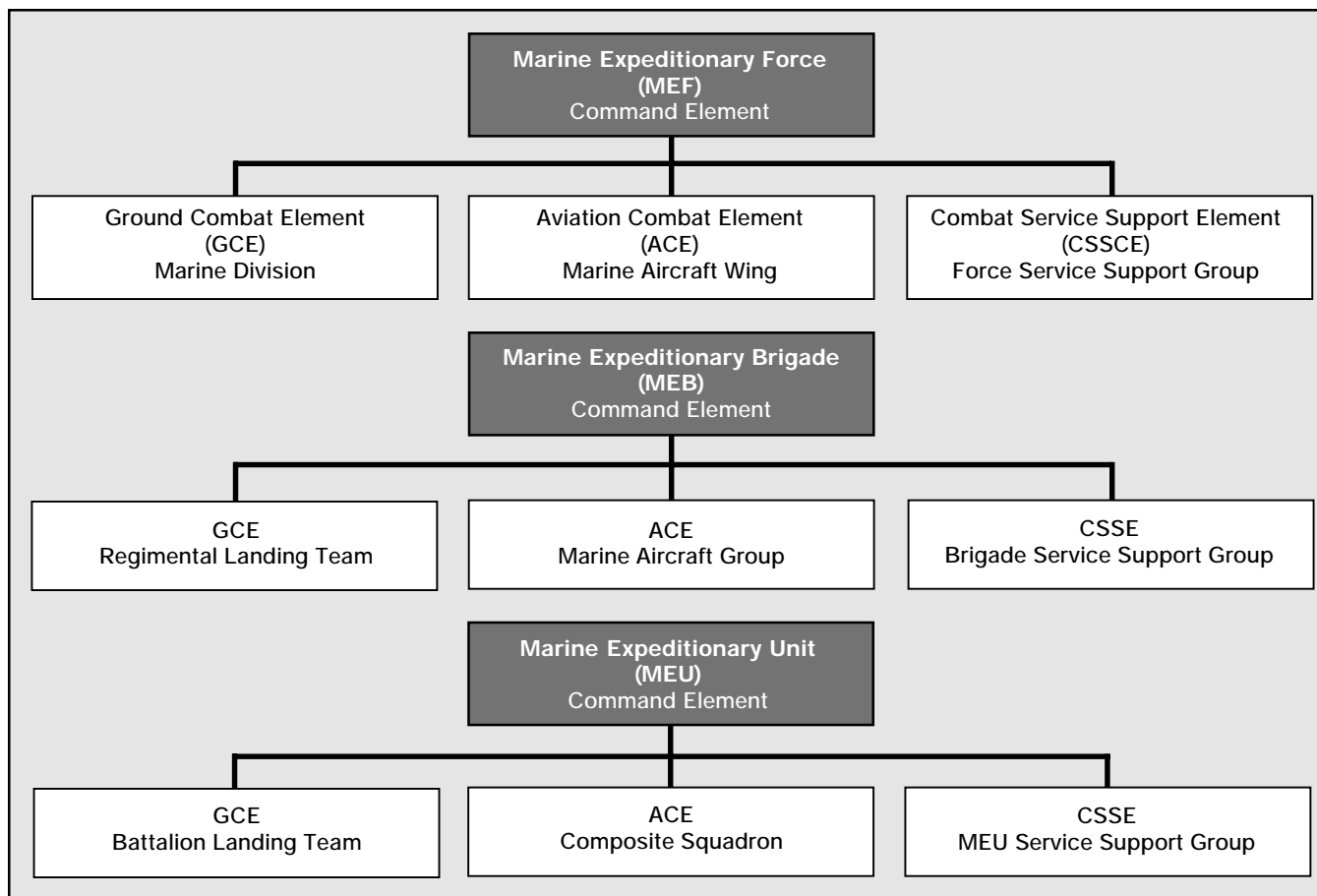


Figure 1: Marine Air-Ground Task Forces (MAGTFs) are task organized for specific missions and range widely in size and capabilities. Each MAGTF has a Command Element, GCE, ACE and CSSE. The MEB, the MAGTF core capability provided to commanders-in-chief (CINCs), consists of about 17,000 Marines and more than 150 aircraft.

The MAGTF commander fights a single battle with an integrated organization of air, ground and logistics forces, making the whole far more capable than the sum of its parts. The scalability of task organized MAGTFs provides the means to accomplish multiple missions across the full spectrum of military operations without redeployment or reorganization.

The MAGTF has unique capabilities to conduct expeditionary operations in support of a naval campaign, sustained combat operations and operations-other-than-war or serve as a seamless part of a joint and (or) combined force. To project and sustain combat power, assure access and enable joint, allied and coalition operations, the MAGTF typically strikes a balance between firepower and mobility. The MAGTF's expeditionary nature and the evolving operational concept of Expeditionary Maneuver Warfare place great emphasis on the GCE commander's ability to employ his ground fire support and other available assets in the correct volume and type at the proper time and place.

A typical MAGTF is composed of a command element (CE), a GCE, an aviation combat element (ACE) and a combat service support element (CSSE) and ranges in size and capability. (See Figure 1.) To meet specific mission requirements, a GCE can range in size from a platoon or company in a special purpose MAGTF (SPMAGTF) to a battalion landing team (BLT) in a Marine expeditionary unit (MEU) or a regimental landing team in our mainstay, the Marine expeditionary brigade (MEB). In a Marine expeditionary force (MEF), the GCE consists of one or more divisions.

MAGTF Fires. Typically, the MAGTF commander (and the GCE commander) has access to a wide variety of fire support systems to provide echeloned and mutually supporting fires. MAGTF fire support historically has been a balanced system of air-, ground- and sea-delivered fires that complement each other and reduce the risks associated with each system's vulnerabilities. The ACE, along with naval aviation, contributes the aerial-delivered fires needed to fight the deep battle and complement the

surface-delivered munitions supporting the close and rear battle. The ACE can include rotary- and fixed-wing offensive air support in the form of the AH-1W Cobra, AV-8B/C Harrier, EA-6B Prowler and F/A-18C/D Hornet aircraft.

While not a part of the MAGTF, per se, the naval surface fire support (NSFS) organic to the surface combatants accompanying or forming an element of the amphibious task force provides accurate, responsive, high-volume, massed fires needed in the early stages of an operation launched from the sea. NSFS also augments the MAGTF's organic fires once operations are established ashore. NSFS currently consists mainly of 5-inch/54-mm guns mounted on destroyers and cruisers, but the Navy (with the active support of the Marine Corps) is vigorously pursuing enhanced and (or) improved weapons and target acquisition (TA) systems, as well as platforms to influence events ashore.

Further, as stated in our vision, the Marine Corps aims to enhance our responsive, integrated and balanced expeditionary fires, leveraging improvements

to organic surveillance, TA, aviation and indirect fires along with naval fire support systems and joint capabilities.¹

Within the GCE, the commander normally has two distinct forms of fire support organic to his command. The first is his artillery that currently is armed with the M198 155-mm towed howitzer and provides lethal, highly responsive, all-weather fire support across the MAGTF. Artillery units are task organized for combat as the situation requires and normally range in size from a battery (in the case of an MEU) to the division's own artillery regiment. The GCE's second form of fire support is the infantry mortars (60-mm at the company level and 81-mm at the battalion level) that complement the artillery's indirect fires for the close and rear area battles.

A quick review of the GCE's organic fire support assets shows the differences between weapon systems available to the Marine Corps and Army. Beyond the obvious differences in artillery systems (all towed versus self-propelled in many Army divisions) is the Army's rocket/missile systems. Multiple-launch rocket systems (MLRS) provide an Army commander lethal, long-range, highly responsive and accurate, all-weather fire support. MLRS allows the Army commander to be less reliant on Air Force assets to shape his battlespace and have an immediate response in the counterbattery battle.

Currently, the GCE commander must rely on the MAGTF's aviation assets, not all of which are all-weather, to perform many of the fire support tasks accomplished by the Army's MLRS units.

Fires Employment. The GCE commander employs his fire support assets throughout his battlespace to produce lethal combined arms effects on the battlefield. During operations, he uses many TA assets and fire support weapon systems that are closely integrated with electronic attack and other nonlethal means to isolate and shape the enemy. This creates weaknesses within the enemy defenses or formations and protects and supports maneuver and rear area forces in the close battle.

ACE and NSFS assets are available to the commander and often will provide the preponderance of fire support in the early phases of an expeditionary operation. That said, artillery and mortars remain the GCE commander's principal means of immediate, all-weather fire support for ground combat operations.

Artillery assets support the GCE commander by providing close and continuous fires to suppress, neutralize or destroy enemy targets that threaten the mission. Mortar fires complement the artillery fires and provide immediate fire support to the small unit commander. The salient point is that these assets reside under one command, the GCE.

Allowing his tactical units the opportunity to use the mortars for the small-unit fight, the GCE commander can prosecute a single seamless battle by using his artillery units to perform three basic tasks. First, artillery supports the maneuver elements fighting the close battle. Second, artillery fires help create depth by attacking enemy reserves, restricting enemy movement, providing long-range fire support to reconnaissance elements and disrupting/degrading enemy command and control (C²) systems and logistical support. Third, artillery elements deliver counterfire to ensure freedom of action for ground maneuver elements.

Evolution of Expeditionary Warfare. The expeditionary nature of MAGTF operations necessitates a rapidly deployable, mobile and versatile, adaptable and sustainable highly trained force in readiness. Indeed, today there are fewer American forces forward based to respond to crises. Adding this fact to the increasing number of situations requiring US military intervention places a greater premium on expeditionary forces.

As the Commandant said in his October 2000 article for the *Armed Forces Journal International*, the term "expeditionary" implies the force is "orga-



Mortar fires complement the artillery's indirect fires in the close and rear area battles.

nized to accomplish a broad range of military objectives in a foreign country or region. Such a force must be able to deploy rapidly, enter the objective area through forcible means, sustain itself for an extended period of time, withdraw quickly, and reconstitute rapidly to execute follow-on missions."²

The MAGTF continues to evolve to meet the demands for greater deployment speed and create an effective operational impact once deployed. All elements of the GCE, including artillery, must continue to keep pace with the evolving requirements for expeditionary warfare. This includes meeting the challenges inherent in providing all-weather, continuous fire support to match our maneuver force needs and mesh decentralized operations common in the Ship-to-Objective Maneuver concept (STOM) with centralized fire support command and control.³ Figure 2 lists the type of operations a GCE commander must be able to execute as part of a MAGTF.

Fixing GCE Fires. In the first month of assuming his post as Commandant, General Jones expressed concern about the state of the Corps' organic indirect

- Conduct forcible-entry operations.
- Defeat the enemy armed forces in sustained combat operations ashore.
- Retaliate for an aggressive act by a foreign political or terrorist group.
- Conduct peace support operations.
- Conduct show-of-force operations.
- Provide humanitarian assistance during a natural disaster or civil unrest.
- Protect and (or) evacuate US citizens abroad.
- Protect US interests abroad.

Figure 2: The GCE commander in a MAGTF must be prepared to execute these missions—and others as directed by higher authorities.

fire support capabilities. His direction to “fix artillery” by July 2004 focuses attention on the many issues facing the fire support community. The Commandant identified the need for fire support capabilities across the spectrum of operations, from devastating, lethal fires in sustained operations ashore to tailored nonlethal fires in support of decisive expeditionary operations. Along with air and naval fires, General Jones sees the need for Marine artillery to provide flexible, responsive support for the type of operations envisioned in Expeditionary Maneuver Warfare, the overarching concept for the MAGTF.⁴

Across the entire spectrum of MAGTF fire support, there are now plans to improve the synergy of effort among aviation, NSFS and artillery to fully integrate the three doctrinal fire support components (TA; command, control and communications or C³; and weapon systems/ammunition) along with nonlethal fires. The goal of these actions is to achieve a complete, balanced and complementary fire support system.

As a GCE commander, I have come to the conclusion that Brigadier Jonathan B. A. Bailey of the British Army was correct when he wrote about the modern style of warfare. Writing in November 1996, the Brigadier stated, “Today we should ensure that our understandable desire to enhance strategic and tactical mobility, which often results in ‘light’ forces, is not seen as cause enough to dispense with the means to provide the fires that must be generated in time and space, i.e. for the duration of a campaign and throughout the theatre, whatever the scale of operation and the nature of the opponent. As forces become ‘lighter’ so firepower may have to increase in equal proportion; and the quality of firepower that can lend both mass and velocity.”⁵ Our forces may be getting “lighter,” but

the fire support they require needs to be more abundant and versatile.

The Lone System. Within the GCE for the past decade, the commander has had only one weapon system, the M198 155-mm howitzer, for medium- to long-range indirect fire support. In an effort to downsize and economize, the Corps adopted a one-weapon system for its artillery.

The deficiency of the lone system is its inability to achieve the balance and complementary capability the GCE commander needs for immediately responsiveness. Multiple systems introduce their own strengths and weaknesses in the calculus required by each situation for accuracy, terminal effects, availability, speed of engagement, vulnerability and relative cost to employ. Gaps in capabilities among the systems must be covered by each system’s complementary attributes.

Major General Carl F. Ernst, the Army’s Chief of Infantry, simplified this calculus as “the echelonment of fires” in his article “Is the FA walking Away from the Close Fight?” in September-October 1999. He thought all available fire support must be employed as close as possible to maneuver forces to create or increase freedom of movement for forces fighting the close battle. Fire support systems must create a complementary blanket of fire to engage enemy forces throughout the depth of the battlespace. Then as the distance between opposing forces decreases, shorter range weapon systems become the main effort, creating a “wall of steel” to fight the extremely close battle. Of course, the long-range systems continue to engage deeper targets, shaping the next battle.⁶

While air and naval assets provide a portion of this complementary blanket, the GCE commander needs comple-

mentary all-weather organic fires at his immediate disposal to ensure the risks he takes are acceptable. General Jones believes the Corps’ echelonment of GCE fires is “broken,” because it’s inadequate at both the high and low ends of the GCE’s organic fire support.⁷ Figure 3 depicts the Corps’ current state of echelonment of fires.

To answer this deficiency, the Artillery Operational Advisory Group (OAG) was chartered in September 1999. The OAG consists of the artillery regimental commanders from the active and Reserve forces and the senior representative from the USMC Artillery Detachment at Fort Sill, Oklahoma, with additional input from Headquarters Marine Corps, as required. The OAG has identified and prioritized artillery and ground fire support issues directly impacting operational capabilities, standardization, training, readiness, structure, manning and safety. The Artillery OAG also has provided long-term recommendations for artillery and fire support to the GCE Advocate at Headquarters Marine Corps, Lieutenant General Emil R. Bedard at Plans, Policies and Operations.⁸ Figure 4 lists some of the recommendations agreed upon by the Ground Board of the GCE Advocate.

Firing System Triad. The Commandant has approved the plan to establish an artillery firing system triad to replace the current lone system by the year 2015.⁹ (This triad should not be confused with the doctrinal fire support triad consisting of the three fire support components, fire support C³, TA/battlefield surveillance and fire support resources.) The Corps’ firing system triad, along with improvements in our TA, integration of our C² system and munitions, will significantly reduce the gap in our abilities to echelon ground fires (see Figure 5).

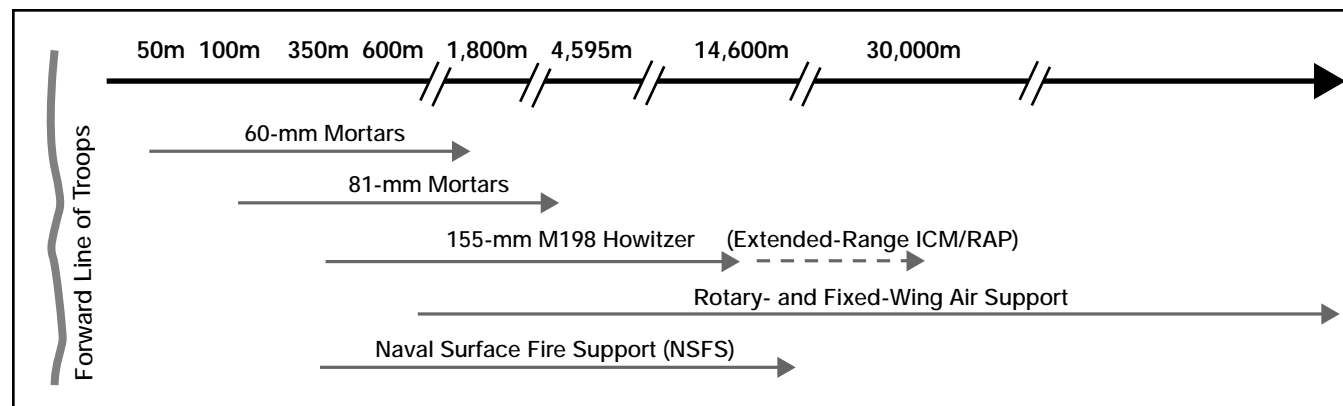


Figure 3: Current Echelonment of Fires Available to the GCE Commander

- Develop a firing system triad to meet future MAGTF ground fire support requirements.
- Conduct a comprehensive, Commandant-directed force structure review of all organic division indirect fire systems, including mortars, to ensure they are mutually supporting.*
- Transition two battalions of the 14th Marine Regiment, 4th Marine Division, Marine Forces Reserve, to the high-mobility artillery rocket system (HIMARS) and, possibly, add one HIMARS battery to each active Marine division.
- Improve target acquisition capabilities, to include replacing the current AN/TPQ-46 radar with an enhanced ground weapons locating radar (GWLR) with significantly greater range and finding a more capable replacement for the AN/GVS-5 handheld laser rangefinder.**
- Improve command and control capabilities, including adding a tactically integrated C² system and an integrated mortar ballistic computer (MBC).
- Reorganize the 14th Marine Regiment to perform the force artillery mission for the MEF commander.
- Improve munitions and ammunition transport and handling equipment.
- Establish an Executive Agent for MAGTF Fires to provide additional focus and continuity of effort to fix fire support across the entire Marine Corps.
- Evolve fire support doctrine to meet the future requirements of Expeditionary Maneuver Warfare and supporting concepts and complement future C² and firing systems.
- Improve training and manning for artillery personnel and units.

* Mortars organic to infantry units are not part of the triad or review as they are proven assets needing only minor tweaking in terms of ammunition and command, control and computers.

** The GWLR will be integrated with Navy radars that also identify counterfire targets.

Figure 4: Fixes for Marine Fire Support. The Ground Board of the GCE Advocate, Headquarters Marine Corps, has agreed to this list of recommendations suggested by the Artillery Operational Advisory Group (OAG).

The firing system triad will meet challenges confronting Marine artillery, both now and in the future, providing the GCE commander integrated, responsive and continuous deep battle shaping fires, counterfires and close battle supporting fires directly under his control. The triad will achieve the complementary internal capabilities to support maneuver forces operating with ever-

greater depth and speed on an increasingly chaotic and confusing battlefield.

The triad will be composed of three new weapons systems. The first but least defined element is the Expeditionary Fire Support System (EFSS). EFSS will be characterized by increased mobility and reduced size and weight (as compared to current artillery systems) along with a small logistic footprint. It

must be internally transported by the V-22 Osprey helicopter to allow the GCE to take full advantage of the radius, speed and altitude profile of this aircraft. Ideally the EFSS will be suited for shipboard deployment with MEUs and provide immediate, close and continuous fires (more lethal than 81-mm mortar fires) in support of highly mobile mechanized and (or) heliborne assault forces.

The second system is the lightweight M777 155-mm towed howitzer with towed artillery digitization (TAD). This system, currently in its Engineering and Manufacturing Development phase, has an initial operational capability (IOC) in the Marine Corps of 2004. It will replace the M198 howitzer as the premier cannon weapon for active and Reserve forces. The M777 w/TAD will capitalize on proven lethality, firing all lethal and developmental 155-mm family of artillery munitions. It will feature increased accuracy and improved emplacement, displacement and mobility capabilities, making it better suited to meet the close support and deep fight requirements of the expeditionary GCE.

The third system is the Army's high-mobility artillery rocket system (HIMARS) currently in the Concept Exploration phase of the acquisition process with an IOC of 2008. HIMARS will provide the GCE commander a lethal, high-volume of immediately responsive fires that will complement the ACE's tactical aviation assets. More importantly, HIMARS will provide a critical, highly responsive counterfire capability, especially at extended-ranges not attainable by current or projected cannon ground fire support systems.

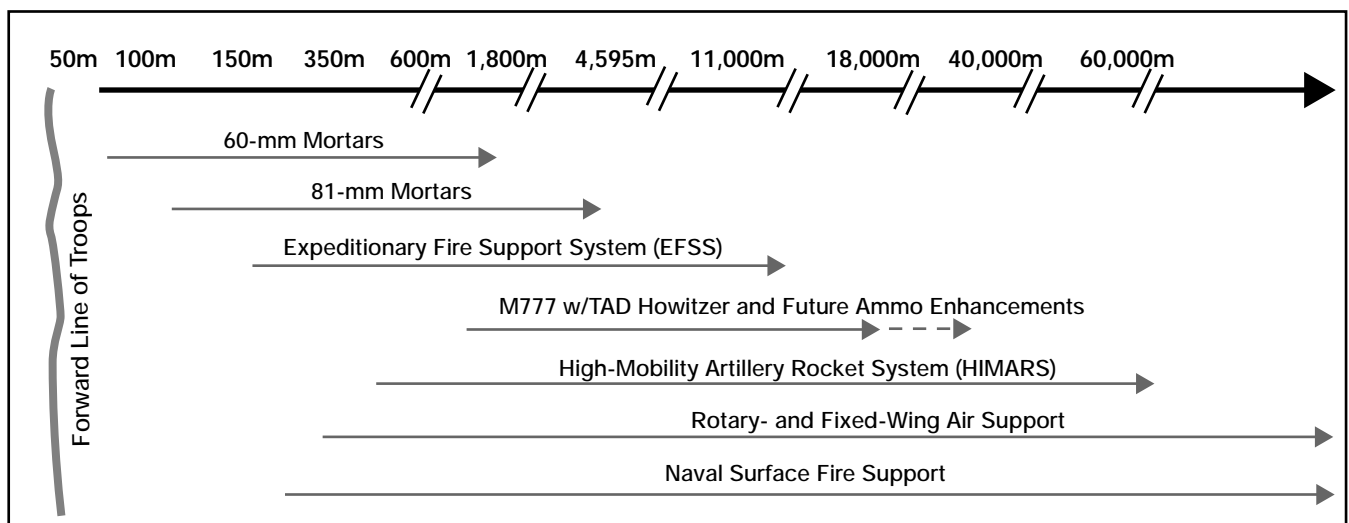


Figure 5: Fire Support System Triad and Future Echelonment of Fires

Each system in the triad brings unique, complementary capabilities along with intelligent redundancies to the GCE and MAGTF. They will significantly enhance the effects of ground fire support across the full spectrum of armed conflict and give the GCE commander flexibility in task organizing to meet threats.

Bridging the Gap. The addition of EFSS and HIMARS to the 155-mm Marine Corps cannon artillery fills the two major gaps in organic ground fire support for the GCE. The first gap is at the lower end between the organic mortars of the Marine infantry units and the M198, and the second is at the high end between artillery and the air support provided by the ACE.

Experiences of the past few years and our analysis of fire support requirements for our emerging/future warfighting concepts demonstrate one system simply cannot meet all the challenges. While the 155-mm howitzer will continue to provide the bulk of our ground fires, the Marine Corps must bridge the expeditionary fire support gap at the low end with a light and mobile system that has enough ammunition lethality and range to continuously support expeditionary and heli-borne forces rapidly moving across the battlefield.

The inadequacies at the high end have always existed, but the problem is becoming exacerbated by the increasingly fluid nature of expeditionary operations that has increased demand for support of long-ranging operations. If you combine Brigadier Bailey's remarks about the requirement for additional fire support to lend mass and velocity as forces become lighter¹⁰ with the evolution in expeditionary warfare and then add the increased ranges of our potential adversaries' indirect fire support systems, a long-range, rapidly-delivered indirect fire support asset in the GCE is a necessity.

HIMARS will fill the high-end gap in the echelonment of fires. Although avia-



A CH-53E Sea Stallion lifts today's 155-mm M198.

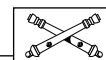
tion and naval fires will continue to provide the majority of our long-range fires, HIMARS is essential to ensure the GCE commander has continuous responsive, all-weather fires under his control. The rocket will provide the lethality and accuracy of large-caliber artillery munitions coupled with the high-volume, massed fires required by the GCE commander. HIMARS will help him influence the deep battle, negating the enemy's fires and allowing GCE forces to maneuver decisively.

To make the fire support triad and the greater objective of fixing fires a reality, the Marine Corps is developing a "Fire Support Road Map." Phase One will establish an Executive Agent for MAGTF Fires to provide top-down integration of all MAGTF fire support systems (air, ground and sea). Phase Two will include buying and fielding the M777 w/TAD howitzer, HIMARS, the ground weapons locating radar (GWLR) and a mortar ballistic computer (MBC) to better integrate the infantry mortars and continuing to refine doctrine and organization. An integrated C² system and improved ammunition

handling and transportation equipment will be fielded during Phase Three. Finally, during Phase Four, EFSS will be fielded along with the doctrine to support the integrated employment of the firing system triad.

The firing system triad meets the Commandant's directive to fix artillery. With the triad plan in place and other recommended corrective actions begun, the vision for ground-based fire support to the GCE and the MAGTF in future operations is indeed bright and robust. The GCE will have an organic, continuous, mobile, timely and short- and long-range ground-based fire support system that, when integrated with aviation and naval surface fires, will allow the MAGTF to meet the demanding challenges of future expeditionary warfare.

In the end, this will give Marine operating forces the flexibility to achieve a wide range of effects across the full spectrum of lethality and conflict.



Major General Robert R. Blackman, Jr., US Marine Corps, took command of the 2d Marine Division at Camp Lejeune, North Carolina, in June 1999, the same division in which he previously served as the Assistant Division Commander. In other billets, he was the President of the Marine Corps University, Quantico, Virginia; Military Assistant to the Secretary of the Navy at the Pentagon; and Executive Officer for the Commander-in-Chief of US Central Command at MacDill AFB, Florida. He also has served as Head of the Current Operations Division of Headquarters, Marine Corps at the Pentagon. As the G3 Operations Officer for Marine Forces Central Command (Forward), he served in Southwest Asia during Operations Desert Shield and Storm. He commanded the 15th Marine Expeditionary Unit (MEU), Camp Pendleton, California; and the 3d Battalion, 8th Marines, Camp Lejeune, including a Mediterranean deployment with the 22d MEU. In addition, Major General Blackman commanded a rifle company in the 3d Battalion, 1st Marines of the 1st Marine Division at Camp Pendleton.

Endnotes:

1. General James L. Jones, *Marine Corps Strategy* 21, 3 November 2000.
2. General James L. Jones, "What's in a word?" (*Armed Forces Journal International*, October 2000).
3. Interview with General James L. Jones, Commandant of the Marine Corps, "Fixing the Marine Artillery" (*Field Artillery*, September-October 2000).
4. Commandant of the Marine Corps (CMC), Washington, DC/Plans, Policies and Operations, message "CMC Guidance on Fixing the Artillery," dated 130926z Aug 99.
5. Jonathon B.A. Bailey, "The First World War and the Birth of The Modern Style of Warfare," Strategic and Combat Studies Institute's Occasional Paper Number 22 (Camberley, England: British Staff College), November 1996.

6. Major General Carl F. Ernst, USA, "Is the FA Walking Away from the Close Fight?" (*Field Artillery*, September-October 1999).
7. Interview.
8. "Artillery OAG Charter," as approved by by LtGen Emil R. Bedard, Plans, Policies and Operations, Headquarters, Marine Corps, Washington, DC, dated July 2000.
9. Interview.
10. Bailey.